



### PATENT APPLICATION

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Attorney Docket No.: 2950.19US02

KUMAR et al.

Confirmation No.: 1878

Application No.:

10/827,072

Examiner: Unknown

Filed:

April 19, 2004

Group Art Unit: 1745

For:

LITHIUM METAL OXIDES

# INFORMATION DISCLOSURE STATEMENT

Mail Stop Amendment Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

Pursuant to 37 C.F.R. § 1.56, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached Form PTO-1449. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This information is being filed before the mailing date of a first Office Action on the merits. No certification or fee is required.

The Examiner's attention is directed to co-pending U.S. Patent Application No. 09/595,958, filed June 19, 2000, which is directed to related subject matter. The identification of this U.S. patent application is not to be construed as a waiver of secrecy as to that application

Application No. 10/827,072

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now or upon issuance of the present application as a patent. The Examiner is respectfully requested to consider the cited application and the art cited therein during examination.

Copies of the references were cited by or submitted to the Office in Patent Application No. 09/595,958, filed June 19, 2000, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these references are not attached. 37 C.F.R. § 1.98(d).

This application was filed after June 30, 2003; therefore, copies of cited U.S. patents and U.S. published applications are not included.

Respectfully submitted,

Peter S. Dardi, Ph.D. Registration No. 39,650

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### CERTIFICATE OF MAILING

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Peter C Dard

#### Complete if Known Substitute for form 1449/PTO Application Number 10/827,072 INFORMATION DISCLOSURE Filing Date April 19, 2004 ቸልፐEMENT BY APPLICANT First Named Inventor Kumar et al. (Use as many sheets as necessary) 1745 Art Unit Examiner Name Unknown Attorney Docket Number 2950.19US02 of 5 Sheet 1 U.S. PATENT DOCUMENTS **EXAMINER** Name of Patentee or Applicant Cite Publication Date INITIAL\* No.1 Document Number MM-DD-YYYY of Cited Document Number-Kind Code<sup>2 (if known)</sup> US-4,366,215 12/1982 Coetzer at al. US-4,687,643 08/1987 Cortesi et al. US-4,770,960 09/1988 Nagaura et al. Thackeray et al. US-4,980,251 12/1990 US-5,013,706 05/1991 Schramm et al. US- 5,017,446 05/1991 Reichman et al. 05/1993 Barboux et al. US- 5,211,933 11/1993 US-5,264,201 Dahn et al. US-5,273,848 12/1993 Noguchi et al. US-5,290,592 03/1994 Izuchi US-5,312,611 05/1994 Takami et al. Tarascon US-5,425,932 06/1995 US-5,443,809 08/1995 Olsen Neat et al. US-5,464,708 11/1995 Mitate US-5,478,672 12/1995 US- 5,478,675 12/1995 Nagaura US-5,486,346 01/1996 Fey Fauteux et al. US- 5,589,300 12/1996

## FOREIGN PATENT DOCUMENTS

01/1997

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EXAMINER INITIAL*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)			
		WO 96/12676	05/02/1996		
		WO 97/20773	06/12/1997		
		WO 97/37935	10/16/1997		
		WO 00/27754	05/18/2000		
		WO 00/46867	08/10/2000		

EXAMINER DATE SIGNATURE CONSIDERED

US-5,591,546

US-5,601,796

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Petent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450.

#### Complete if Known Substitute for form 1449/PTO Application Number 10/827,072 INFORMATION DISCLOSURE Filing Date April 19, 2004 STATEMENT BY APPLICANT First Named Inventor Kumar et al. (Use as many sheets as necessary) Art Unit 1745 Examiner Name Unknown Attorney Docket Number 2950.19US02 Sheet 2 of 5 U.S. PATENT DOCUMENTS EXAMINER Cite Publication Date Name of Patentee or Applicant INITIAL\* No. Document Number MM-DD-YYYY of Cited Document Number-Kind Code<sup>2 (if known)</sup> US-5,614,472 03/1997 Riddle et al. US-5,631,105 05/1997 Hasegawa et al. Ellgen et al. US- 5,641,465 06/1997 Ellgen et al. US-5.641.468 06/1997 US-5,674,644 10/1997 Nazri US-5,677,087 10/1997 Amine et al. Amatucci et al. US-5,695,887 12/1997 US- 5,750,288 05/1998 Xie US-5,759,720 06/1998 Amatucci Saidi US- 5,770,018 06/1998 US-5,783,333 07/1998 Mayer US-5,795,558 08/1998 Aoki et al. 09/1998 US-5,807,646 Iwata et al. US-5,824,434 Kawakami 10/1998 US- 5,874,058 02/1999 Sheargold et al. US-5,883,032 03/1999 Bogdan et al. US-5,905,000 05/1999 Yadav et al. US- 5,911,920 06/1999 Hasezaki et al. US-5,928,622 07/1999 Hwang et al. FOREIGN PATENT DOCUMENTS Foreign Patent Document **EXAMINER Publication Date** Cite тб Name of Patentee or Applicant INITIAL' No.1 MM-DD-YYYY of Cited Document Country Code<sup>3</sup> Number<sup>4</sup>Kind Code<sup>5</sup> (if known) EP 0 492 880 A2 07/01/1992 EP 0 117 755 A2 09/05/1984 EP 0 820 113 A1 01/12/1998 EP 0 837 036 A1 04/22/1998 abstract UK 2 299 988 A 10/23/1996 JP 2296732 A abstract **EXAMINER** DATE **SIGNATURE CONSIDERED**

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>&</sup>lt;sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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### Complete if Known Substitute for form 1449/PTO Application Number 10/827,072 April 19, 2004 Filing Date INFORMATION DISCLOSURE STATEMENT BY APPLICANT First Named Inventor Kumar et al. (Use as many sheets as necessary) Art Unit 1745 **Examiner Name** Unknown Attorney Docket Number 2950.19US02 3 5 Sheet of U.S. PATENT DOCUMENTS **EXAMINER Publication Date** Name of Patentee or Applicant Cite INITIAL' No.1 Document Number MM-DD-YYYY of Cited Document Number-Kind Code<sup>2 (if known)</sup> 09/1999 Bi et al. US-5,952,125 09/1999 Laine et al. US-5,958,361 US-5.965.293 10/1999 Idota et al. US-5,989,514 11/1999 Bi et al. US-6,127,065 10/2000 Yamamoto et al. US-6,136,287 10/24/2000 Horne et al. US-6,165,642 12/2000 Kawakami et al. US-6,268,085 07/2001 Manthiram et al. US-US-US-US-US-US-US-US-US-US-US-FOREIGN PATENT DOCUMENTS **EXAMINER** Foreign Patent Document Publication Date Cite T6 INITIAL' MM-DD-YYYY Name of Patentee or Applicant No.1 of Cited Document Country Code<sup>3</sup> Number<sup>4</sup>Kind Code<sup>5</sup> (if known) **EXAMINER** DATE **SIGNATURE** CONSIDERED

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Substitute for form 1449/PTO INFORMATION DISCLOSURE				Complete if Known					
				Applica	tion Number	10/827,072			
				Filing D	ate	April 19, 2004			
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Sheet	4	of	5	Attorney	Docket Number	umber 2950.19US02			
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EXAMINER INITIAL*	Cite No. <sup>1</sup>	Cite Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the							
		COLBOW et al., "Structure and Electrochemistry of the Spinel Oxides LiTi <sub>2</sub> C and Li <sub>4/3</sub> Ti <sub>5/3</sub> O <sub>4</sub> ," Journal of Power Sources, 26, pp. 397-403, 1989							
		DARLING et al., '							
			Particle Sizes," Journal of the Electrochemical Society, Vol. 144,						
		No. 12, pp. 4201-4208, December 1997							
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		Rechargeable Lithium Cells," J. Electrochem. Soc., Vol 142, No. 5, pp. 1431-1435, May 1995							
		PERAMUNAGE (	et al., "Prepar	ation of	Micron-Sized	Li <sub>4</sub> Ti <sub>5</sub> O <sub>12</sub> and its			
		Electrochemistry in Polyacrylonitrile Electrolyte-Based Lithium Cells," J.							
		Electrochemical Society, Vol. 145, No. 8, pp. 2609-2622, August 1998							
		STOYANOVA et al., "Effect of Mn-Substitution for Co on the Crystal structure and Acid Delithiation of LiMn <sub>y</sub> Co <sub>1-y</sub> O <sub>2</sub> Solid Solutions," Solid State Ionics 73, pp. 233-240, July 1994							
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EXAMINER SIGNATURE		de de la companya de			DATE CONSIDERED				

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Substitute for form 1449/PTO				Complete if Known			
				Application Number	10/827,072		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT				Filing Date	April 19, 2004 Kumar et al.		
				First Named Inventor			
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				Examiner Name	Unknown		
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EXAMINER INITIAL*	Cite No. <sup>1</sup>	Include name of th	ne author (in CAPITA ine, journal, serial, sy	L LETTERS), title of the ar	ticle (when appropriate), title of the e, page(s), volume-issue number(s),	T <sup>2</sup>	
		ZAGHIB et al., "Electrochemistry of Anodes in Solid-State Li-Ion Polymer					
		Batteries," Journal of the Electrochemical Society, Vol. 145, No. 9, pp. 3135-3140, September 1998					
		Oak Ridge National Laboratory, "Thin Film Rechargeable Lithium and Lithium-					
		Ion Batteries," September 1999, 19 pages International Search Report (PCT/US01/40979) dated October 5, 2001 Written Opinion dated 17 June 2002 (PCT/US01/40797)					
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